

In re Patent Application of:
PARSCHE
Serial No. **10/694,148**
Filing Date: **October 27, 2003**

In the Claims:

1. (CURRENTLY AMENDED) An antenna comprising:
a radiating spherically configured ring element
formed as a substantially solid spherical sector having about
a one-half wavelength circumference in natural resonance for
obtaining uniform current distribution and enhancing the gain
relative to the size of the antenna.

2. (ORIGINAL) An antenna according to Claim 1
wherein the diameter of the radiating ring element is about
twice its height.

3. (ORIGINAL) An antenna according to Claim 1
wherein the spherical sector comprises a one-third pi sector
of a sphere.

4. (ORIGINAL) An antenna according to Claim 1
wherein said radiating ring element includes a capacitive
element formed therein for forcing the radiating ring element
to resonance.

5. (ORIGINAL) An antenna according to Claim 4
wherein said radiating ring element has a gap formed therein
and operative as said capacitive element.

6. (ORIGINAL) An antenna according to Claim 5,
and further comprising a capacitor mounted within the gap.

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7. (ORIGINAL) An antenna according to Claim 1, and further comprising a variometer that feeds the radiating ring element and operative for varying the feed impedance.

8. (ORIGINAL) An antenna according to Claim 7 wherein said variometer comprises a radiating element positioned within the radiating ring element and having a near field coupling thereto for exciting the radiating ring element.

9. (ORIGINAL) An antenna according to Claim 8 wherein said variometer further comprises a rotatable radiating ring element.

10. (ORIGINAL) An antenna according to Claim 9 and further comprising a controller and drive operative with the rotatable radiating ring element for controlling its rotation and changing the feed impedance in a predetermined manner.

11. (CURRENTLY AMENDED) An antenna comprising:
a radiating spherically configured ring element
formed as a substantially solid spherical sector and having a capacitive element formed therein for forcing the radiating ring element to resonance and a circumference that enhances the gain relative to the size of the antenna.

12. (ORIGINAL) An antenna according to Claim 11 wherein the diameter of the radiating ring element is about twice its height.

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13. (ORIGINAL) An antenna according to Claim 11 wherein the spherical sector comprises a one-third pi sector of a sphere.

14. (ORIGINAL) An antenna according to Claim 11 wherein said radiating ring element has a gap formed therein operative as said capacitive element.

15. (ORIGINAL) An antenna according to Claim 11, and further comprising a capacitor mounted within the gap.

16. (ORIGINAL) An antenna according to Claim 11, and further comprising a variometer that feeds the radiating ring element at the capacitive element and operative for varying the feed impedance.

17. (ORIGINAL) An antenna according to Claim 16 wherein said variometer comprises a radiating element positioned within the radiating ring element and having a near field coupling thereto for exciting the radiating ring element.

18. (ORIGINAL) An antenna according to Claim 17 wherein said variometer further comprises a rotatable radiating ring element.

19. (ORIGINAL) An antenna according to Claim 18, and further comprising a controller and drive operative with the rotatable radiating ring element for controlling its

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rotation and changing the impedance feeding the radiating ring element in predetermined manner.

20. (CURRENTLY AMENDED) An antenna comprising:
a spherically configured radiating ring element
formed as a spherical sector and having a circumference
dimensioned at a natural resonance for obtaining uniform
current distribution and enhancing the gain relative to the
size of the antenna; and
a variometer feeding the radiating ring element and
operative for varying the feed impedance.

21. (ORIGINAL) An antenna according to Claim 20
wherein said variometer comprises a radiating element
positioned within the radiating ring element and having a near
field coupling thereto for exciting the radiating ring
element.

22. (ORIGINAL) An antenna according to Claim 21
wherein said variometer further comprises a rotatable
radiating ring element.

23. (ORIGINAL) An antenna according to Claim 22
and further comprising a controller and drive operative with
the rotatable radiating ring element for controlling its
rotation and changing the impedance feeding the radiating ring
element in predetermined manner.

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24. (ORIGINAL) An antenna according to Claim 20 wherein the diameter of the radiating ring element is about twice its height.

25. (ORIGINAL) An antenna according to Claim 20 wherein the spherical sector comprises a one-third pi sector of a sphere.

26. (ORIGINAL) An antenna according to Claim 20 wherein said radiating ring element includes a capacitive element formed therein for forcing the radiating ring element to resonance.

27. (ORIGINAL) An antenna according to Claim 26 wherein said radiating ring element has a gap forming the capacitive element.

28. (ORIGINAL) An antenna according to Claim 27 and further comprising a capacitor mounted within the gap.

29. (ORIGINAL) An antenna according to Claim 28 wherein the spherical ring element is filled with a magneto-dielectric loading material having a relative permeability equal to the relative permittivity.